

**Flood Control Project Maintenance
Levee Inspections**

Fall 2016 Levee Maintenance Deficiency Summary Report

Overall LMA & Unit Ratings, including USACE Erosion Survey

Sacramento River Basin

**** SBFCA currently has operation and maintenance obligations during project construction and closeout.**

ST0005	Overall LMA Rating	Total LMA Miles						
Sutter Maintenance Yard Hamilton Bend	U	3.39						
Rated Item	Maintenance Deficiency				Enforcement		Design & System Obsolescence	
	M Miles	U Miles	M + 4U Miles	Threshold %	M Miles	U Miles	M Miles	U Miles
<i>Earthen Levee</i>								
Vegetation	1.15	0.01	1.19	35.06%				
Trim / Thin Trees	1.36	0.71	4.20	123.73%				
Encroachments					0.85			
<i>Supplemental</i>								
DWR UCIP Field Study					0.02			
<i>LMA Totals:</i>	2.51	0.72	5.39	158.79%	0.87	0.00	0.00	0.00

Unit No. 01 Feather River Hamilton Bend RB	Overall Unit Rating	Total Unit Miles						
ST0005	U	3.39						
Rated Item	Maintenance Deficiency				Enforcement		Design & System Obsolescence	
	M Miles	U Miles	M + 4U Miles	Threshold %	M Miles	U Miles	M Miles	U Miles
<i>Earthen Levee</i>								
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**Flood Control Project Maintenance
Levee Inspections**
LMA District Cover Sheet
Fall 2016 Levee Inspection Results

Sutter Maintenance Yard Hamilton Bend

	Spring (March - May)	Summer ** (June - August)	Fall (September - November)	Winter ** (December - February)
† Overall LMA Rating (Fall Only)			U	

** Non-receipt of Summer or Winter Inspection
Reports may effect overall annual rating.

† SPRING INSPECTIONS: Overall maintenance ratings are not determined for the spring inspection results. Individual maintenance deficiencies are rated using the same criteria in the spring and in the fall.

FALL INSPECTIONS: The overall maintenance rating shown above is based on operation and maintenance deficiencies identified within the attached unit inspection reports. This rating is not intended to be an indication of risk.

Comments

**Flood Control Project Maintenance
Levee Inspections**

Unit Cover Sheet

Fall 2016 Levee Inspection Results

Sutter Maintenance Yard Hamilton Bend

Waterway			Bank	Unit Miles
Unit No. 01 Feather River Hamilton Bend			Right	3.39
	Spring (March - May)	Summer (June - August)	(September - November) Fall	Winter (December - February)
Unit Maintenance Rating (Fall Only)			U	
Date of Inspection	4/5/2016 - 4/8/2016		9/7/2016 - 9/7/2016	
DWR Inspector	Sterling York		Sterling York	
Accompanied By	Shawn Freitag Sutter Maintenance Yard		Shawn Freitag Sutter Maintenance Yard	

Summer & Winter Inspections

The Local Maintaining Agency (LMA) is responsible for summer and winter inspections. The LMA is required to submit a report regarding summer and winter inspections to the California Department of Water Resources (DWR).

DWR must be informed on the:

- a) completion of the inspection
- b) any changes other than the results of normal maintenance
- c) corrections to deficiencies noted in this report

If additional items are noted, further documentation of those items must also be submitted.

The LMA should submit this information to DWR using the LMA web application tool available at:

<http://cdec.water.ca.gov/lma.html>

If the LMA is unable to submit information on this webpage, please contact DWR for assistance.

The LMA should submit the information and any associated documentation by September 30 for summer inspections and March 31 for winter inspections.

**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2016

Sutter Maintenance Yard Hamilton Bend

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Feather River Hamilton Bend	Right	3.39	09/07/2016 09/07/2016	Sterling York

LM Start		Rating **	A	Issue No.	7
LM End		Issue Type +	Ma	Location *	WS
Category	Earthen Levee		GPS Latitude/Longitude		
			Start		End
Item	Operations & Maintenance Manuals			°	
				°	
DWR ID	DWR_ST0005_01_s _ 2013_7				
Comment Code					
Inspector Comment					
There will be new O&M manuals when the levee is turned back over to the LMA after construction is complete. The old O&M manuals are located at the Sutter Maintenance Yard.					

No Photos

LM Start		Rating **	A	Issue No.	8
LM End		Issue Type +	Ma	Location *	WS
Category	Earthen Levee		GPS Latitude/Longitude		
			Start		End
Item	Emergency Supplies & Equipment			°	
				°	
DWR ID	DWR_ST0005_01_s _ 2013_8				
Comment Code					
Inspector Comment					
Emergency supplies and equipment are stored at the Sutter Maintenance Yard.					

No Photos

LM Start		Rating **	A	Issue No.	9
LM End		Issue Type +	Ma	Location *	WS
Category	Earthen Levee		GPS Latitude/Longitude		
			Start		End
Item	Flood Preparedness & Training			°	
				°	
DWR ID	DWR_ST0005_01_s _ 2013_9				
Comment Code					
Inspector Comment					
Sutter Maintenance Yard employees attend the annual Flood Fight class put on by DWR inspector Bob Duffy.					

No Photos

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2016

Sutter Maintenance Yard Hamilton Bend

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Feather River Hamilton Bend	Right	3.39	09/07/2016 09/07/2016	Sterling York

LM Start	0.01	Rating **	M	Issue No.	16
LM End	0.97	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			39.439858 °	39.453502 °
				-121.641452 °	-121.640238 °
DWR ID	DWR_ST0005_01_s _ 2016_16				
Comment Code					
V4 : Elderberries are blocking visibility and flood fight capability.					
Inspector Comment					

No Photos

LM Start	0.01	Rating **	A	Issue No.	25
LM End	1.22	Issue Type +	En	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Encroachments			39.439858 °	39.456789 °
				-121.641452 °	-121.639255 °
DWR ID	DWR_ST0005_01_s _ 2016_25				
Comment Code					
EQ : Equipment					
Inspector Comment					
ST0005 Unit 1 has recently been reconstructed from levee mile 0.0 to 1.22, but has not been turned back over to the LMA. There is no maintenance on this Unit at this time by the LMA.					

No Photos

LM Start	0.19	Rating **	M	Issue No.	15
LM End	0.19	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Vegetation			39.442435 °	39.442435 °
				-121.641760 °	-121.641760 °
DWR ID	DWR_ST0005_01_s _ 2015_15				
Comment Code					
V4 : Elderberries are blocking visibility and flood fight capability.					
Inspector Comment					

No Photos

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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**Flood Control Project Maintenance
Levee Inspections**

Levee Inspection Report By Mile - Fall 2016

Sutter Maintenance Yard Hamilton Bend

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Feather River Hamilton Bend	Right	3.39	09/07/2016 09/07/2016	Sterling York

LM Start	0.73	Rating **	M	Issue No.	14
LM End	0.91	Issue Type +	En	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Encroachments			39.450109 °	39.452643 °
				-121.640851 °	-121.640316 °
DWR ID	DWR_ST0005_01_s _ 2016_14				
Comment Code					
TR : Tree or limb					
Inspector Comment					
trees smaller than 4" in diameter at chest height should be removed before they get any bigger.					

Photo 1 of 1 : FA_2016_ST0005_289_14_20160906_00003.jpg



View looking upstream of trees. Small trees 4" in diameter at chest height should be removed before they get to big., Spring 2016.

LM Start	0.80	Rating **	M	Issue No.	13
LM End	0.80	Issue Type +	En	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Encroachments			39.450989 °	39.450989 °
				-121.640782 °	-121.640782 °
DWR ID	DWR_ST0005_01_s_2016_13				
Comment Code					
PO : Pole					
Inspector Comment					
Pole on waterside slope.					

Photo 1 of 1 : FA_2016_ST0005_289_13_20160912_00016.jpg



View of pole on waterside slope.

LM Start	1.57	Rating **	M	Issue No.	11
LM End	2.23	Issue Type +	En	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Encroachments			39.459179 °	39.463828 °
				-121.636261 °	-121.625803 °
DWR ID	DWR_ST0005_01_f_2016_11				
Comment Code					
PR : Prunings					
Inspector Comment					
Annual grasses need to be maintained by contractor until levee is turned back over to ST0005.					

Photo 1 of 1 : FA_2016_ST0005_289_11_20160912_00015.jpg



View of waterside annual grasses that need to be maintained.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown		** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable		N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain		+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement	
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Sutter Maintenance Yard Hamilton Bend

**Flood Control Project Maintenance
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Levee Inspection Report By Mile - Fall 2016

Sutter Maintenance Yard Hamilton Bend

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Feather River Hamilton Bend	Right	3.39	09/07/2016 09/07/2016	Sterling York

LM Start	3.25	Rating **	M	Issue No.	26
LM End	3.25	Issue Type +	En	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR UCIP Field Study			39.470269 °	39.470269 °
				-121.609229 °	-121.609229 °
DWR ID					

Comment Code

Inspector Comment

FS_ID:47972
DS_ID:17044
EP_NO: N/A
Repair Type: Non-Urgent
Crossing Status: Indicator Found
UCIP Comments: 4/26/2016 Unable to access area near structure.5/14/2013 Same as last inspection.11/14/2012
Abandoned Structure: WS- reminisce of gates and concrete standpipe;
LS-reminisce of concrete headwall and pump station.
FIELD_STRUCT_DESC: *ABANDONED* [Western Canal Head Gate Inlet Structure] 1 of 2: 96-inch by 96-inch (8-foot by 8-foot) reinforced concrete culverts through the levee 25 feet below the crown. Three slide gates on the waterside (WS) end. Concrete stairs on the WS slope. Concrete headwall at both WS and landside (LS) toes. [Additional Reference(s): DWR Levee Log, 2005. USACE Sacramento O&M Manual 152, March 1957 (Station 170+00)]
FS Date: 5/3/2016 12:36:00 PM

LM Start	3.25	Rating **	M	Issue No.	26 (cont)
LM End	3.25	Issue Type +	En	Location *	WS

Photo 1 of 2 : UCIP_FA_2016_47972_21682.jpg



View of levee crown looking downstream.

Photo 2 of 2 : UCIP_FA_2016_47972_21681.jpg



View of levee crown at right bend.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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Levee Inspection Report By Mile - Fall 2016

Sutter Maintenance Yard Hamilton Bend

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Feather River Hamilton Bend	Right	3.39	09/07/2016 09/07/2016	Sterling York

LM Start	3.25	Rating **	M	Issue No.	27
LM End	3.25	Issue Type +	En	Location *	WS
Category	Supplemental			GPS Latitude/Longitude	
				Start	End
Item	DWR UCIP Field Study			39.470269 °	39.470269 °
				-121.609229 °	-121.609229 °
DWR ID					

Comment Code

Inspector Comment

FS_ID:47973
DS_ID:17056
EP_NO: N/A
Repair Type: Non-Urgent
Crossing Status: Indicator Found
UCIP Comments: 4/26/2016 Unable to access area near structure.5/14/2013 Same as last inspection.11/14/2012 Abandoned Structure: WS- reminince of gates and concrete standpipe; LS-reminince of concrete headwall and pump station.
FIELD_STRUCT_DESC: *ABANDONED* [Western Canal Head Gate Inlet Structure] 2 of 2: 72-inch by 96-inch (8-foot by 8-foot) reinforced concrete culvert through the levee 25 feet below the crown. Three slide gates on the waterside (WS) end. Concrete stairs on the WS slope. Concrete headwall at both toes. [Additional Reference(s): DWR Levee Log, 2005. USACE Sacramento O&M Manual 152, March 1957 (Station 170+00)]
FS Date: 5/3/2016 12:37:00 PM

LM Start	3.25	Rating **	M	Issue No.	27 (cont)
LM End	3.25	Issue Type +	En	Location *	WS

Photo 1 of 2 : UCIP_FA_2016_47973_21697.jpg



View of levee crown looking downstream.

Photo 2 of 2 : UCIP_FA_2016_47973_21696.jpg



View of levee crown at a right bend.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable	N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Feather River Hamilton Bend	Right	3.39	09/07/2016 09/07/2016	Sterling York

LM Start	3.26	Rating **	M	Issue No.	4
LM End	3.27	Issue Type +	Ma	Location *	WS
Category	Earthen Levee			GPS Latitude/Longitude	
				Start	End
Item	Trim / Thin Trees			39.470433 °	39.470558 °
				-121.609200 °	-121.609215 °
DWR ID	DWR_ST0005_01_s _ 2013_4				
Comment Code					
T3 : Trim and thin trees to allow visibility of the ground and room to flood fight.					
Inspector Comment					
Small trees 4" in diameter at chest height should be removed before they get to big.					

Photo 1 of 1 : FA_2016_ST0005_289_4_20160912_00010.jpg



Waterside trees. Small trees 4" in diameter at chest height should be removed before they get to big.

* Location LS : Land Side N/A : Not Applicable WS : Water Side CR : Crown	** Rating A : Acceptable M : Minimally Acceptable U : Unacceptable N : Not Inspected/Rated C : Corrected A/W : Acceptable but Monitor & Maintain	+ Issue Type Ma : Maintenance Deficiency Ob : Design & System Obsolescence En : Enforcement
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